

# 15 $\mu\text{m}$ 128x128 Quantum Well Infrared Photodetector (QWIP) Focal Plane Array Camera

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## *ABSTRACT*

Very long wavelength infrared (VWIR) photodetectors, 14  $\mu\text{m}$  to 20  $\mu\text{m}$ , are of a great interest for variety of space-borne applications. These space applications have placed stringent requirements on the performance of the infrared detectors and arrays including high defectivity, low dark current, uniformity, radiation hardness and lower power dissipation. I will discuss the development and progress of  $\text{Al}_x\text{Ga}_{1-x}\text{As}/\text{GaAs}$  VWIR quantum well infrared photodetectors (QWIPs) to meet those stringent requirements and the demonstration of a 15  $\mu\text{m}$  128x 128 QWIP focal plane array camera. The noise equivalent temperature difference of the focal plane array is 30 mK at 300 K background, and operating temperature is 45 K.